

CLAIMS 1-3, 6 AND 7, 9

Applicant first argues that the Lundahl reference is non-analogous prior art. Lundahl discloses a structure for cutting and severing hay, grasses and stalks. Applicant teaches a method and apparatus for to engage and lacerate stalks. The intended result and improvement sought by Applicant is to specifically avoid cutting and severing corn stalks. The Lundahl prior art cited by the examiner is not applicable and can be distinguished because it teaches that a single knife like blade is to be rotated against the crop to be cut; Lundahl does not teach using the blade or edge with an opposing knife blade or edge for cutting the crop as found in the present art. Furthermore, because of the cost of adding a layer of hardened material to a long, straight knife edge such as a stalk roll, in comparison to the Lundahl knife blade, it would not necessarily be obvious to one having ordinary skill in the art to add the hardened material.

The Russell reference discloses state of the art technology for ear corn pickers versus the application to modern corn heads as found in the present art. Russell teaches an arrangement of "cutter" stalk rolls that are to be mounted in an opposing and vertically offset manner. To be operable as cutting or stalk rolls, Russell requires pressure resisting bars 80 mounted to the stalk rolls in combination with angle bars 76 to produce the cutting of the stalk. Additionally, Russell teaches a set of cutting stalk rolls which are both offset in relation to each other while the angle bars 76 are also intermeshing. (See Russell at Fig. 4) Furthermore as shown at Fig. 4 of Russell, cutting and severing the corn stalk to harvest the corn ears from the corn plant is taught. Additionally, Russell in combination with Lundahl fails to teach a stalk roll that penetrates and lacerates the corn stalk without cutting or severing the stalk.

The combination of Russell and Lundahl would not teach a functioning penetrating stalk that works without a pressure resisting bar 80 as taught by the present art. It has

frequently been held that the omission of a part or constituent with its function is not a matter of invention but where a part or a constituent is omitted, without sacrifice of function, invention has frequently been found.⁴

CLAIMS 4 & 5

Cited prior art Calmer teaches opposing parallel stalk rolls orientated in a knife-to-knife arrangement. Cited prior art Russell teaches off-set (non-parallel) stalk rolls having cutting edges 76, at 90 degree angles to each other, opposed by pressure resisting bars 80. The combination of Calmer and Russell, in view of Lundahl, do not teach or enable Applicant's hardened, opposing parallel stalk rolls with intermeshing fluted knife edges, without Russell's pressure resisting bar 80, subject of this patent application as found at Fig. 16. See Applicant's newly submitted claims 21-40 for further definition and explanation.

CLAIMS 8 & 10

Sutton teaches a knife-to-knife stalk roll operation requiring a flat pressure surface (49) to cut the surface of the stalk. Sutton teaches a knife non-complimentary knife angle that leads with a long edge. Sutton does not teach varying the distance between the stalk roll edges. Sutton in combination with Lundahl does not teach varying the distance between the stalk rolls either. The Examiner has not cited wherein the reference Sutton it is taught that the radius of the opposing flutes surfaces (45) is reduced in discrete increments along the stalk roll (40), as per Applicant's claim 8. Applicant would argue that Sutton is silent on changing or modifying the radius of the opposing surfaces along the stalk roll (40). Applicant disagrees with the description of

⁴ See Ex parte Briod, 41 USPQ 41, 42 (Pat. Off. Bd. App. 1938)

Sutton provided by the Examiner for the relationship of the leading edge (49) and the trailing edge (48) to the direction of rotation of the stalk rolls (40).

Furthermore, Sutton discloses a stalk roll wherein the radius of the leading edge of the flute (45) is greater than the trailing edge of the flute (45). Sutton teaches a knife flute edge directly opposite in orientation to that taught and claimed by Applicant. See Applicant figures 13B-B, 14B-B, and 15B-B. Additionally, Sutton provides no teaching or suggestion for Applicant's invention having intermeshing flute with knife edges with a leading edge radius less than the trailing edge radius found at Figure 16.

Regarding the Calmer reference, it is silent as to whether the knife edges are hardened. The knife edge angles as shown are opposite that shown by Sutton. The combination of Calmer, Sutton and Lundahl, does not teach Applicant's invention as shown in Figure 16 of the present patent application. See also Applicant's new claims 21-40.

CLAIM 20

The Examiner has rejected Applicant's method claim 20 as anticipated by the cited prior art Sutton. Applicant argues that Sutton does not teach penetration and laceration of the corn plant stalk for the purpose of stalk deterioration and improved detachment of feed grain ears without severing the corn plant stalk. Sutton instead teaches using the combination of cutting stalk rolls 40 and stripper plates 30 to sever ears of sweet corn from the corn plant stalk. As taught by Sutton, the ears of corn are "sweet corn" ears which are green or alive when cut. By contrast, the present art is for dry or feed grain corn wherein the stalk is dying or dead. The deteriorating condition of the corn plant stalk of the present art presents a stalk with different attributes than a green stalk; the green stalk although being stronger is also firmer thereby providing opposition to the stalk roll edge thus improving the slicing or cutting effect of the cutting stalk rolls 40.

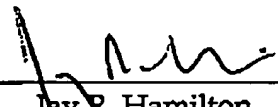
In contrast, the present art is drawn to feed grain with a dry or deteriorated stalk. Because the Sutton reference does not disclose or discuss application to feed grain corn plant stalks, the Sutton reference does not enable those practiced in the arts to practice the present art. "[E]ven if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling." Helifix Ltd. v. Blok-Lok, Ltd., 54 USPQ 2d 1299, 1304 (Fed. Cir. 2000) (quoting *Donohoe*, 766 F.2d at 533, 226 USPQ at 621.) Alternatively, Applicant has submitted a revised and amended claim further incorporating the specification into the claims. See, specifically, new claims 35-36.

REMARKS

Applicant believes he has fully responded to the examiners arguments and rejections with regard to the previously presented patent claims 1-20. Additionally, Applicant has submitted new claims 21-40 as guided by the office action. Applicant hereby declares the all claims submitted herein are fully supported by applicant's original patent application. Applicant requests the examiner consider the enclosed response and allow the patent application.

Respectfully submitted,
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Date: October 14, 2005

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